

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0123722

Owner: Lake Region Water and Sewer Company
Owner's Address: #1 Grand Point Blvd., Sunrise Beach, MO 65079

Continuing Authority: Same as above
Address: Same as above

Facility Name: Shawnee Bend Wastewater Treatment Facility
Facility Address: NW Corner of MM & Grand Point Blvd., Sunrise Beach, MO 65079

Legal Description: NE ¼, SW ¼, SW ¼, Sec. 3, T39N, R16W, Camden County
Latitude/Longitude: +3810008/-09240022

Receiving Stream: Unnamed Tributary to Forked Hollow Cove (U) (Losing)
First Classified Stream and ID: Lake of the Ozarks (L2) (07205) 303(d)
USGS Basin & Sub-watershed No.: (10290109-080005)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

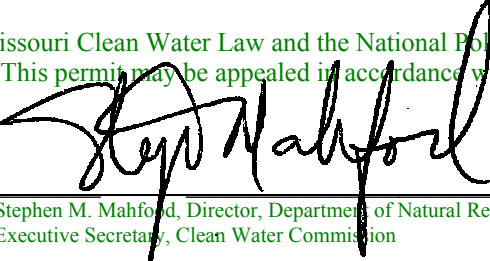
FACILITY DESCRIPTION

See Page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

December 10, 2004
Effective Date

December 9, 2009
Expiration Date
MO 780-0041 (10-93)


Stephen M. Mahford, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

Jim Hull, Director of Staff, Clean Water Commission

FACILITY DESCRIPTION (continued)

Outfalls #001 and #002 – Sludge holding/treatment basin and irrigation system design

Outfall #001 – Sludge treatment/holding basin - SIC #4952

Basin dimensions are 223 x 108 by 6 feet depth.

Operating storage capacity between minimum and maximum operating levels is 365,500 gallons including 1-in-10 year storm water flows.

Outfall #002 – Irrigation system - SIC #4952

Irrigation design flow is based on precipitation.

Irrigation design flow is 325,829 gallons/year including 1-in-10 year storm water flows.

Application rates are: 0.1 inch/hour; 0.25 inch/day; 1.0 inches/week; 12 inches/year.

Irrigation site is a 1.0-acre grassland field with slopes of less than 10 percent.

Irrigation equipment type is sprinklers.

Outfalls #003, #004, #005 and #006 – Eliminated

Outfall #007 – Wastewater Treatment Facility - SIC #4952

Flow equalization/extended aeration/chlorination/sludge treatment and holding basin/sludge will be land applied.

Design population equivalent is 1180.

Design flow is 100,000 gallons per day.

Design sludge production is 21.24 dry tons/year.

| A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS | | | | | PAGE NUMBER 3 of 9 | |
|---|-------------|------------------------------|----------------|-----------------|--------------------------|-----------------|
| | | | | | PERMIT NUMBER MO-0123722 | |
| The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect through December 14, 2005. Such discharges shall be controlled, limited and monitored by the permittee as specified below: | | | | | | |
| OUTFALL NUMBER AND EFFLUENT PARAMETER(S) | UNITS | INTERIM EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> – Emergency discharge from the sludge treatment/holding basin (Note 1) | | | | | | |
| Flow | MGD | * | | * | once/day** | 24 hr. estimate |
| Biochemical Oxygen Demand ₅ | mg/L | | 45 | 45 | once/week** | grab |
| Total Suspended Solids | mg/L | | 45 | 45 | once/week** | grab |
| pH – Units | SU | *** | | *** | once/week** | grab |
| Ammonia Nitrogen as N | mg/L | * | | * | once/week** | grab |
| Fecal Coliform | #/100mL | * | | * | once/week** | grab |
| <u>Outfall #002</u> – Land Application Operation Monitoring (Notes 2 & 3) | | | | | | |
| Sludge treatment/holding Basin Freeboard | feet | * | | | once/week | measured |
| Irrigation Period | hours | * | | | daily | total |
| Volume Irrigated | gallons | * | | | daily | total |
| Application Area | acres | * | | | daily | total |
| Application Rate | inches/acre | * | | | daily | total |
| Rainfall | inches | * | | | daily | total |
| <u>Outfall #002</u> – Irrigated Water (Note 4) | | | | | | |
| Total Kjeldahl Nitrogen as N | mg/L | * | | | once/month**** | grab |
| Total Phosphorus as P | mg/L | * | | | once/month**** | grab |
| Ammonia Nitrogen as N | mg/L | * | | | once/month**** | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2005</u> . | | | | | | |
| <u>Outfall #007</u> | | | | | | |
| Flow | MGD | * | | * | once/week | 24 hr. total |
| Biochemical Oxygen Demand ₅ ***** | mg/L | | 15 | 10 | once/week | 24 hr. comp |
| Total Suspended Solids***** | mg/L | | 20 | 15 | once/week | 24 hr. comp |
| pH – Units | SU | *** | | *** | once/week | grab |
| Fecal Coliform | #/100mL | 1000 | | 400 | once/week | grab |
| Total Residual Chlorine (Note 5) | mg/L | 1.0 | | 1.0 | once/week | grab |
| Ammonia as N | mg/L | * | | * | once/week | grab |
| Temperature | °F | * | | * | once/week | grab |
| MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>January 28, 2005</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OF VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS. | | | | | | |
| B. STANDARD CONDITIONS | | | | | | |
| IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN. | | | | | | |

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report.
- *** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0 to 9.0 pH units.
- **** Monitor only when irrigation occurs. Report as no-discharge when there is no irrigation during the reporting period.
- ***** This facility is required to meet a removal efficiency of 85% or more.

Note 1 – Emergency discharge only when a rainfall occurs that is in excess of the 1 in 10 year rainfall amount.

Note 2 – Records shall be maintained and summarized into an annual operating report, which shall be submitted by January 28th of each year for the previous calendar year period. The report shall include the following:

- a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- b. The number of days the emergency storage basin has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- c. A summary of the irrigation operations including freeboard at the start and end of the irrigation season, the number of days of irrigation for each month, the total gallons irrigated, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, the monthly and annual precipitation received at the facility and summary of testing results.

Note 3 – Sludge treatment/holding basin freeboard shall be reported as water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 4 – Irrigated water shall be sampled at the irrigation pump or wet well.

Note 5 – This permit contains a Total Residual Chlorine (TRC) limit.

- a. If the TRC limit in this permit is > 0.01 mg/L and < 0.2 mg/L, you must use an analytical method that has a quantification limit of no greater than 0.05 mg/L TRC. For reporting purposes on the discharge monitoring report (DMR), all analytical values below 0.05 mg/L shall be reported as “<quantlim.” All analytical values at or above the quantification limit of 0.05 mg/L shall be reported as the measured value. The permittee shall report the quantification limit in the remarks section of the DMR.

The average monthly effluent values for TRC will be determined by assuming that analytical results below the quantification limit are equivalent to 0 mg/L when calculating the monthly average.

The daily effluent value will be considered equal to 0 mg/L if it is below the quantification limit.

- b. If the TRC limit in this permit is 1.0 mg/L; you must use an analytical method with a quantification limit between 0.2 and 0.5 mg/L. All analytical values below the quantification limit shall be reported as “<quantlim.” All analytical values at or above the quantification limit shall be reported as the measured value.

The average monthly effluent values for TRC will be determined by assuming that analytical results below the quantification limit are equivalent to 0 mg/L when calculating the monthly average.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

The daily effluent value will be considered equal to 0 mg/L if it is below the quantification limit.

- c. Disinfection is required year-round unless the permit specifically states that "Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31." If your permit does not require disinfection during the non-recreational months, do not chlorinate in those months.
- d. Do not chemically dechlorinate if it is not needed to meet the limits in your permit.
- e. If no chlorine was used in a given sampling period, an actual analysis is not necessary. Simply report as "0 mg/L" TRC.

C. SPECIAL CONDITIONS

- 1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

- 2. All outfalls must be clearly marked in the field.
- 3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
- 4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 ug/L);
 - (2) Two hundred micrograms per liter (200 ug/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

C. SPECIAL CONDITIONS (continued)

5. Report as no-discharge when a discharge does not occur during the report period.
6. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
 - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
 - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
8. Wastewater Irrigation System
 - (a) Discharge Reporting. Any unauthorized discharge from storage, treatment or land application system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
 - (b) Irrigation Design. Permittee shall operate the land application system in accordance with the design parameters listed in the Facility Description section of this permit.
 - (c) Emergency Storage Basin Operating Levels – No-discharge Systems. The minimum and maximum operating water levels for the emergency storage basin shall be clearly marked. The emergency storage basin shall be operated so that the maximum water elevation does not exceed one foot below the overflow point except due to exceedances of the 1-in-10 year or 25-year-24 hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. The emergency storage basin shall be lowered to the minimum operating level prior to each winter by November 30.

C. SPECIAL CONDITIONS (continued)

- (d) Emergency Spillway. Earthen storage basins shall have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
 - (e) General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
 - (f) Saturated/Frozen Conditions. There shall be no irrigation during frozen, snow covered, or saturated soil conditions. There shall be no irrigation on days when more than 0.2 inch of precipitation is received or when there is observation by operator of an imminent or impending rainfall event.
 - (g) Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling; or 50 feet of the property line.
 - (h) Public Access Restrictions. Public access shall not be allowed to irrigation site(s). Fencing and public access restrictions to land application sites shall be in accordance with requirements in 10 CSR 20-8.020(15)(b)(5).
 - (i) Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once/hour during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
 - (j) Operation and Maintenance Manual.
The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to the departments' Water Protection Program and Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.
9. The permittee shall submit a report semi-annually (January 1 and July 1) with the Discharge and Monitoring reports which address measures taken to locate and eliminate sources of infiltration and inflow into the collection system.

D. SCHEDULE OF COMPLIANCE

The permittee shall demonstrate compliance with the Final Effluent Limitations for Total Residual Chlorine as listed in Part A of this permit, or submit a completed application for a construction permit and fee along with one copy each of engineering report, plans and specifications prepared by a professional engineer registered in the State of Missouri by March 15, 2005. These are to be submitted to the Missouri Department of Natural Resources, Southwest Regional Office, 2040 West Woodland, Springfield, MO 65807.

The permittee shall respond within fifteen(15) calendar days of any request for additional information or changes in the engineering report, plans or specifications, respond and if necessary submit engineering modifications to the department and obtain a construction permit by June 15, 2005.

Permittee shall complete construction of dechlorination facilities and meet the Final Effluent Limitations for total residual chlorine by December 15, 2005. Within fifteen (15) days of completion of construction, submit a Statement of Work

D. SCHEDULE OF COMPLIANCE

Completed form, signed, sealed, and dated by a professional engineer registered in the State of Missouri certifying that the project has been completed substantially in accordance with the approved plans and specifications. In addition to the Statement of Work Completed, submit an application for a Missouri State Operating Permit modification complete with the appropriate modification fee to the Missouri Department of Natural Resources, Southwest Regional Office, 2040 West Woodland, Springfield, Missouri, 65807.

In addition, the permittee shall comply with the Consent Judgement and Order of Injunction dated May 11, 2004, in the matter of the State of Missouri vs. Lake Region Water and Sewer Company, Inc.